TECHNOLOGY

10 Reasons Life May Be A Computer Simulation

ROBERT GRIMMINCK DECEMBER 2, 2013

Philosophers as far back as Plato millennia ago speculated that what we see may not be real at all. With the advent of computers, the idea took on new life, especially in recent years, with films like *Inception*, *Dark City*, and the *Matrix* trilogy. Is it possible that the world is just a computer simulation?

10 Ancestor Simulators

Computers now process huge amounts of data, and some of the most intense and productive tasks involve simulations. Simulations consider multiple variables and use artificial intelligence to analyze them and examine outcomes. Some simulations are games.

Some are models of real-life situations, such as the spread of disease. Some are "history simulators," which can be games (like Sid Meyer's *Civilization*) or can mimic the real-life growth of society over time.

That's how simulations run now, but computers keep getting faster. Processing power has doubled periodically for decades, and computers 50 years from now may well be millions of times more powerful than any today. Better computers would bring much bigger and better computer simulators—including history simulators. If computers get powerful enough, they would create history simulations so real that the self-aware beings within them would have no idea they were part of a program.

Think that's too far out there? Harvard's Odyssey supercomputer can simulate 14 billion years in only a few months.

9 If Someone Can, They Will

Okay, so it may be possible to create a universe inside a computer. But would it be moral? Humans are complex beings with feelings and relationships. Mightn't there be something wrong in creating a whole fake world of them? Wouldn't the responsibility for every action in that universe fall on our shoulders, and wouldn't it be too much for us to bear?

Maybe. But that doesn't matter. Because to some people, the idea of running a simulation

would just be too tempting. And even if, for whatever reason, history simulators were illegal, it would just take a single person to run one and create our reality. It would take just one person, who'd consider the matter no more significant than a game of *The Sims*.

People may also have good reasons for creating such simulators, beyond just entertainment. Humanity could be facing death, forcing scientists to create our world as a massive diagnostic test. The simulation would help them find what went wrong with their real world and figure out how to save themselves.

8 Visible Flaws

If a simulation is advanced enough, those inside needn't recognize it as a simulation at all. If you were to grow a brain in a vat and manipulate it with stimuli, it wouldn't know it's in a vat. It would assume itself a living, breathing, active person.

But even advanced simulations can have flaws, right? Wouldn't we notice some imperfections, some "glitch in the Matrix"?

Maybe we do see such glitches in our everyday lives. *The Matrix* offered the example of déjà vu—when something seems inexplicably familiar, the simulation may be skipping like a scratched CD. Supernatural elements, like ghosts or miracles, could also be glitches. According to simulation theory, people really do witness these phenomena, and they do so

because of bugs in the simulation's code.

The Internet offers plenty of anecdotal evidence of these glitches. Keep your mind and eyes open, and maybe you'll see some for yourself.

7 Math Makes Up Life

Everything in the universe is quantifiable in some way. Even life is quantifiable, despite medicine's long reputation as an "inexact science." The Human Genome Project, which sequenced the chemical base pairs that make up human DNA, was solved using computers. All the secrets of the universe are solved using math. In fact, we can explain the universe better using math than we can with words.

If everything is mathematical, everything could be broken down to binary code. So if computers and their data progress enough, could a functional human be created using the genome sequence inside a computer? And if you can build one being, mightn't you build a whole world of them?

Scientists speculate that someone may have already done that and created our world. To determine whether we're living in a simulation, researchers are undertaking serious investigations—by examining the math that makes up our universe.

6 The Anthropic Principle

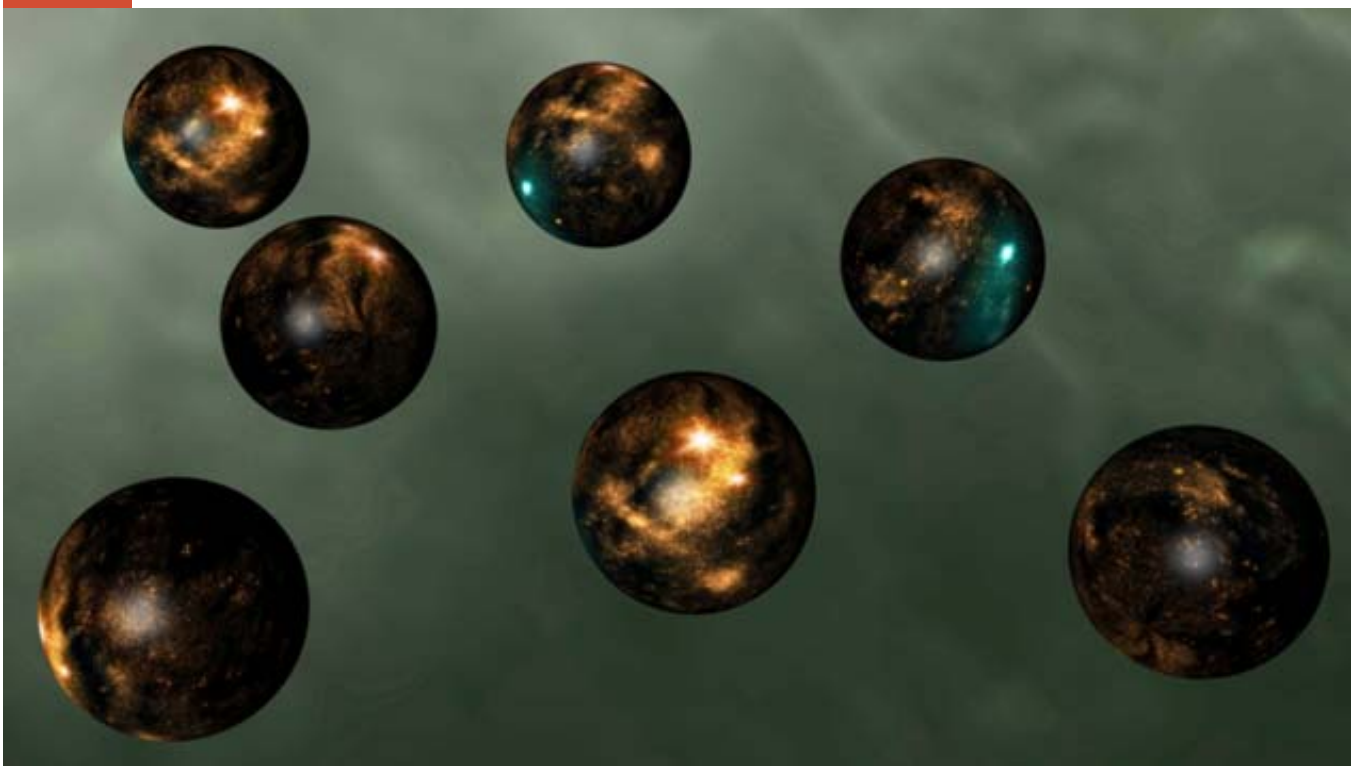
It's amazing that humans exist. For life to start on Earth, we needed everything to be just right. We're the perfect distance away from the Sun, the atmosphere has the correct composition, and gravity is just powerful enough. And though there may be many other planets with those conditions, life gets even more impressive when you widen your perspective beyond Earth. If some cosmic factor like dark energy were even a little stronger, life probably wouldn't exist, either here or anywhere else in the universe.

The anthropic principle asks, "Why? Why did these conditions come about so perfectly for us?"

One explanation is that the conditions were deliberately set in place with the intention of giving us life. Every convenient factor was a fixed condition in some vast lab experiment. The factors were just plugged into the universe, and then the simulation was started. This let existence and our individual planet evolve the way it has.

A consequence of this is that those behind the simulation needn't be humans at all. Some other set of beings may be running it, and they choose to hide their presence from us. Perhaps alien life knows how to manipulate the computer program and can make themselves invisible to us.

5 Parallel Universes



The theory of parallel worlds, or the multiverse, posits an infinite number of realities with an infinite number of possibilities within them. Picture the floors of an apartment building. Universes are part of the multiverse much like floors are part of the building—they share a common layout, but each is distinct, and they'll contain different things. Jorge Luis Borges likened the multiverse to a library. Within the library are an infinite number of books; some differ by just a letter, while others are completely different stories.

The theory has all sorts of crazy implications for the meaning of life. But if there really are multiple universes, why did they come about? How come there are so many?

If we're in a simulation, the multiple universes are multiple simulations running at once. Each simulation has its own set of variables, and this isn't random. The simulation's creator plugged in different variables to test different scenarios and observe different outcomes.

4 Fermi's Paradox

Our planet is one of many with conditions that could support life, and our sun is quite young compared to others in the universe. You therefore might expect proof of life elsewhere—from planets where life runs parallel to ours or from ones where life began eons earlier.

Furthermore, humans have ventured into space, so shouldn't civilizations elsewhere have also tried space travel? With a billion other galaxies out there, some of which are billions of years older than ours, wouldn't at least one have *mastered* space travel? Since Earth has the conditions for life, you'd even expect Earth to have been colonized by an advanced civilization at some point.

Yet we have found no trace of any other form of intelligent life in the universe. The Fermi Paradox can simply be summed up as—"Where is everybody?"

This ties back into simulation theory in a few different ways. If life should exist elsewhere but only exists on Earth, that could be evidence that we're in a simulation. Those behind the simulation chose to simulate life nowhere else, for simplicity, or to see how humans do alone.

The multiverse theory says that there is indeed life on other planets—in most universe simulations. Ours is simply the one simulation that puts us alone in the universe. Going

back to the anthropic principle, it could be this universe was created just for us.

Another theory, the planetarium hypothesis, offers one more possible answer. The simulation made various populated planets each wrongly think themselves alone in the universe. Perhaps the simulation aims to test the effects of ego-boosting on civilization?

3 God Is A Programmer

People have long exchanged ideas of a god as a designer of the world. Some imagine one particular god as a bearded man in the clouds, but simulation theory says that that god (or any other) may instead be a bespectacled programmer hunched over a keyboard.

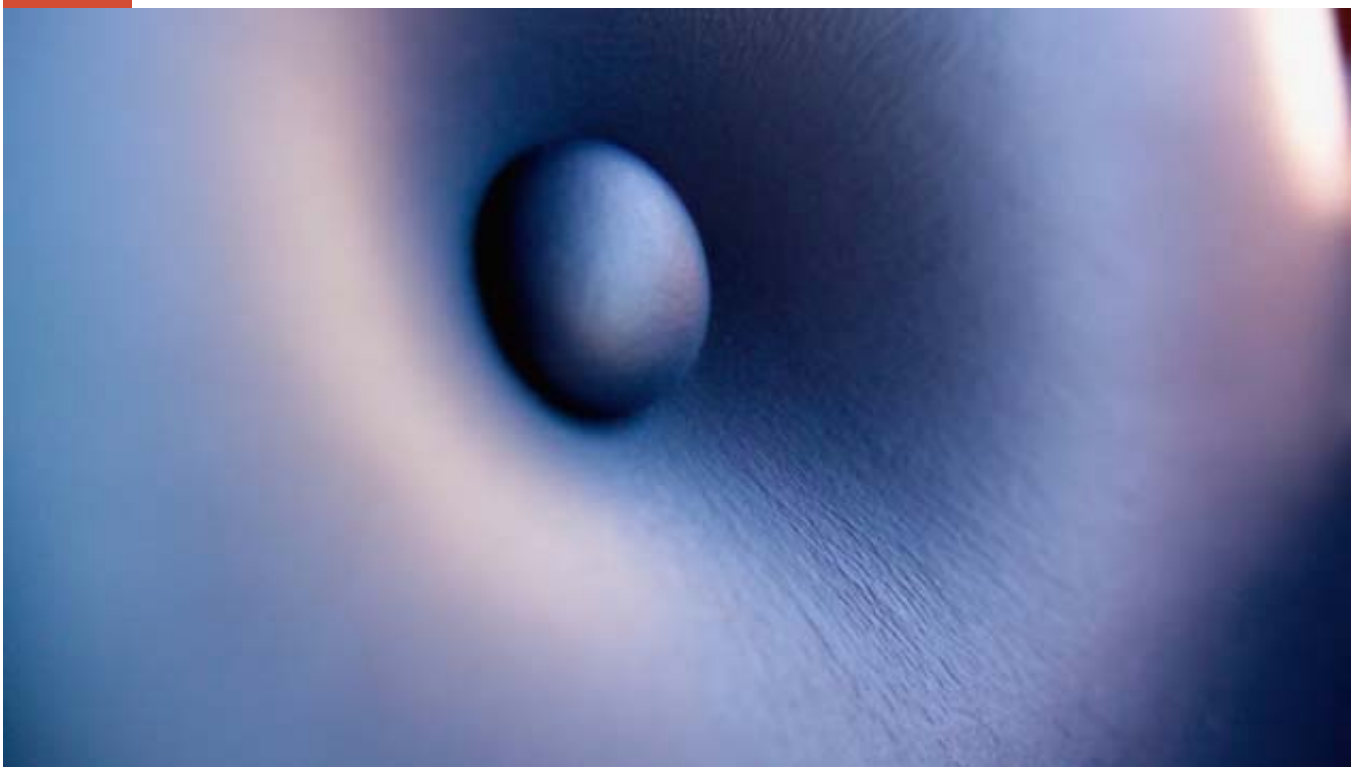
As we've established, a programmer can create worlds out of simple binary. The only question then is why the programmer would encode within us the desire to worship our creator, a key part of most religions.

This could be intentional or unintentional. Perhaps the programmer wants us to know that he or she exists, and wrote code to give us an innate feeling of having been created. Maybe the programmer intended nothing of the sort, but we've intuited the creator's existence nonetheless.

The idea of a god as a programmer even goes along with the idea of intelligent design in

two different ways. The first is it that code started life, letting everything evolve within the simulator to where we are today. The second is that it might make literal Creationism exactly right—just like the Bible says, God created the world and life in seven days, but he would have used a computer rather than cosmic powers.

2 Outside The Universe



What's outside of our universe? With simulation theory, the answer would seem to be a supercomputer surrounded by advanced beings—but an even crazier possibility exists.

Those beings who run this simulation might be as fake as we are. There may be multiple layers of simulation. As Oxford philosopher Nick Bostrom suggests, "The post-humans running our simulation are themselves simulated beings; and their creators, in turn, may also be simulated beings. Here may be room for a large number of levels of reality, and the number could be increasing over time."

It's like you sat down to a game of *The Sims* and played it until your characters created a *Sims* game of their own. Their Sims, in turn, programmed and played their own game, while you are secretly part of an even larger simulation.

This still leaves a question: What is outside the creator's "real" universe? It's an idea so far removed from our lives that it could be impossible to speculate on it. But if simulation

theory can at least explain our universe's limited size and note what's immediately outside it . . . well, that's a good start in determining the nature of existence.

1 Fake People Make For Easy Simulations

Even if computers get vastly more powerful, the universe might seem much too complex to fit in one. Each of the seven billion people currently alive is complex enough to rival any computer imaginable. And we're an infinitesimal part of a vast universe, which contains billions of galaxies besides ours. It would be incredibly difficult, if not impossible, to take into account that many variables.

But a simulated world needn't be anywhere as complex as it seems. A convincing simulation would need just a few detailed key figures and then a great many barely sketched secondary players. Think of games like those in the *Grand Theft Auto* series. They contain hundreds of people, but you only interact with a few. Life could be very much like that—you have yourself, and you have your close family and friends, but everyone you pass on the street? They're not real. They have few thoughts and no emotions. They're little more than set dressing.

Let's stick with the open-world video game analogy for a bit. These games contain large "worlds," but only your current location contains true action at any one time. Reality could run the same way. Areas out of sight could be stored in memory and are brought up only

when needed, saving huge amounts of processing power. And what about distant areas that you'll never visit, such as all those other galaxies? The simulation never needs to run these areas at all. It just needs to display convincing images when you try to view them.

But never mind people on the street or distant stars. You don't even have proof that *you* exist, at least as the person you imagine. We think the past has happened because we have memories, and because of records like photos and books. But what if all that is just freshly written code? What if your life was turned on the last time you blinked your eyes?

The disturbing thing is that this is impossible to prove or disprove.

Robert Grimminck is a Canadian crime fiction writer. You can follow him on Twitter or on Facebook.

Facebook Twitter StumbleUpon Google+ Pinterest

---

10 Easter Eggs You Might Have Missed In Famous Crime Films - Listverse

10 Recent Space Discoveries No One Can Explain - Listverse

10 Alternatives to Evolution - Listverse

10 Craziest Scientific Theories - Listverse

10 More Things We Can't Comprehend - Listverse

MORE GREAT LISTS

TECHNOLOGY

10 Origins of Common Internet Terms

AUGUST 6, 2011

TECHNOLOGY

10 Ominous State-Sponsored Hacker Groups

JANUARY 8, 2015

TECHNOLOGY

10 Enormous Numbers

MARCH 12, 2012

TECHNOLOGY

10 Forgotten And Unrecognized Inventors

FEBRUARY 22, 2013

345 Comments

Recommend 19

Join the discussion…

Arjan Hut · 2 years ago

"There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.

There is another theory which states that this has already happened."
(Douglas Adams)

(Douglas Adams)

139 · Reply · Share ›

Hadeskabir ➔ Arjan Hut · 2 years ago

This list reminds me of a movie I watched a few years ago called "The Thirteenth Floor".

DANGER - SPOILERS:
In the movie a very powerful computer company creates a Virtual Reality simulation of Los Angeles in 1937 fill with simulated humans that are unaware that they are computer programs. The creator of the simulation, in the middle of the movie, finds out that he is also a simulated human in a Virtual Reality simulation. The reality he lives in is all a simulation who was created in 2024, like a SIMS game they can control the characters of the simulation if they want too.

I think this movie relates much more to this list than the matrix. I recommend that you watch it if you liked this list.

36 · Reply · Share ›

Jack ➔ Hadeskabir · 2 years ago

And that movie is based on a book entitled "Simulacron 3" by Daniel Galouye. Great read.

18 · Reply · Share ›

Hadeskabir ➔ Jack · 2 years ago

Yeah, I know, but I haven't read the book. The movie is awesome, pity it was out-shadowed by the Matrix.

3 · Reply · Share ›

Crystal ➔ Jack · a year ago

I love that movie and didn't know this. I can't wait to read it now! Thanks!

1 · Reply · Share ›

Yep ➔ Hadeskabir · 2 years ago

Star Trek: The Next Generation also touched on this subject in the episode "Ship in a Bottle". The simulation (Professor James Moriarty) realises he's a simulation in the holodeck and tries to find a way off the holodeck and into "real life". At the end of the episode Captian Picard mentions the possibility that the crew's reality may actually be a
fabrication generated by "a little device sitting on someone's table."

11 · Reply · Share ›

P5ychoRaz ➔ Yep · 2 years ago

Nice 4th wall break there, Picard... Did he wink at the camera after

Nice 4th wall break there, Picard... Did he wink at the camera after he said it?

7 · Reply · Share ›

Hadeskabir ➔ Yep · 2 years ago

I remember that episode! I watched so many years ago! I loved it. Thank you for reminding me of it.

1 · Reply · Share ›

Arjan Hut ➔ Hadeskabir · 2 years ago

I know The Thirteenth Floor, really enjoy stories like that. eXistenZ, Total Recall, Inception, dream worlds, simulations, a wilderness of mirrors, bring 'em on.

7 · Reply · Share ›

Hadeskabir ➔ Arjan Hut · 2 years ago

But The Thirteenth Floor is exactly what is talked about in this list. In the end of the movie when he wakes up in the body of his user in 2024, it gave me the impression that that reality might be also a simulation. It's one of the biggest mind f*cks since The Usual Suspects.

8 · Reply · Share ›

Juaneles ➔ Arjan Hut · 2 years ago

Yep.... also Avalon is some kind of movie

3 · Reply · Share ›

Best SEO Service Review ➔ Hadeskabir · a year ago

Technology now is reaching out for the stars. Just take a look at this latest msi motherboards

see more

1 · Reply · Share ›

last ➔ Hadeskabir · 2 days ago

just watched that tonight,, awesome

· Reply · Share ›

Hadeskabir ➔ Arjan Hut · 2 years ago

I love piggy backing off the most upvoted comment so everyone reads my opinion. Now I will make a half minded attempt at an insult to tell someone how they're just jealous of me :D

7 · Reply · Share ›

Jake Fuller ➔ Arjan Hut · 2 years ago

Reminds me of Assassins's Creed series :)

6 · Reply · Share ›

Alex James Ramos ➔ Jake Fuller · a month ago

Not sure about that, it's not like the person controlling the historical character has any real power, from what I know it's just like they are watching a movie in the animus.

· Reply · Share ›

anonymouse72 ➔ Arjan Hut · 2 years ago

I think we already did.

42 :O

Oh yeah, that's why everyone is stupid oops

4 · Reply · Share ›

General Rush Hour ➔ Arjan Hut · 2 years ago

Not any scientific theories no (i.e. Gravity, Quantum Mechanics etc). Maybe philosophical ones.

2 · Reply · Share ›

lee ➔ Arjan Hut · 2 years ago

Theory's are all bullshit.

8 · Reply · Share ›

Bmitch32 ➔ lee · 2 years ago

Your grammar is bullshit.

115 · Reply · Share ›

lee ➔ Bmitch32 · 2 years ago

And.....

3 · Reply · Share ›

DumbassLee ➔ lee · 2 years ago

You suck at everything.

41 · Reply · Share ›

This comment was deleted.

lee ➔ Guest · 2 years ago

HAHAHAHAHAHA ok you freak

4 · Reply · Share ›

Metalhead420 ➔ lee · 2 years ago

Care to elaborate?

2 · Reply · Share ›

anonymouse72 ➔ lee · 2 years ago

Theory's are basically well structured opinions, are they?

5 · Reply · Share ›

ArsnI

"Theory's"

Oh my, it's spreading like a disease.

72 · Reply · Share ›

anonymouse72 ➔ ArsnI · 2 years ago

Sorry XD

8 · Reply · Share ›

Edmund Tobin Leibert III ➔ ArsnI · 2 years ago

Agreed. I ponder though how long it will take for someone to realize?

2 · Reply · Share ›

Caroline ➔ anonymouse72 · 2 years ago

No, not at all. At least not scientific theories. Theories are the last step before we can call something a certain fact; and once a theory is disproven, it is no longer a valid theory. So everything we know as

fact was once theory, and a theory only exists as a theory because it has not yet been able to be disproven. And in science, theories are grounded in evidence, not on opinion or guessing.

13 · Reply · Share ›

Arsnl ➔ Caroline · 2 years ago

You'd be amazed about how much creativity and guess work goes into creating a theory.
It takes a lot of that, to create connections between things no one has thought to connect.
It's like having the ingredients and you have to make the recipe, how to connect the dots.
There's also a lot of communication involved.
You seem to confuse the idea of why theories work and how they come to be. They work cuz they're based on evidence but they came to be due to ingenuity.

5 · Reply · Share ›

Tom ➔ Arsnl · 10 months ago

BUT this theory isnt based on any evidence at all....

1 · Reply · Share ›

Austin ➔ Tom · 7 months ago

Religion is based on absolutely nothing but a book some guys wrote. These Theories actually bring information and ideas that put certain possibilities into consideration that is why they are called theories cause they coincide with the fundamentals of science and can be tested to some extent. Tom a Theory that offers any sort of evidence would not be a theory it would be fact...They are called theories because they are still being tested and data is still being collected for substantial evidence as of right now it is only an idea that IS based on evidence from other data collected from other irrelevant research. Maybe I am talking in circles but I hope you understand better.

1 · Reply · Share ›

Danny ➔ lee · 2 years ago

Scientific theories aren't. Philosophical theories aren't meant to be taken literally.

1 · Reply · Share ›

Bob Long ➔ Danny · 2 years ago

Wrong. Depends on which theories. Tons of "scientific" theories have been proven to be wrong.

3 · Reply · Share ›

Hadeskabir ➔ Bob Long · 2 years ago

Here's how it works:

13 · Reply · Share ›

DiverseUphitch ➔ Hadeskabir · 2 years ago

I respect how you put so much effort into proving your points into debates while arguing with other users.

It's almost like you are a simulation. A Listverse simulation.

4 · Reply · Share ›

Hadeskabir

Thank you! I try to have a reasonable debate with the other users.

"Life is only a dream and we are the imagination of ourselves" Bill Hicks

2 · Reply · Share ›

Danny ➔ Bob Long · 2 years ago

I didn't say that can't be later proven to be wrong. He said 'Theory's are all bullshit.' and I was saying that scientific theories aren't all bullshit. Also, just cause they are wrong doesn't make them bullshit.

5 · Reply · Share ›

Tom ➔ Danny · 10 months ago

please keep in mind that this is not a scientific theory, its not based on anything except imagination. the article acts like its using facts, like saying we are the only life in the universe, but this is not a fact at all.

1 · Reply · Share ›

Hadeskabir ➔ Bob Long · 2 years ago

Of course, that's why they are theories.

4 · Reply · Share ›

Maverick ➔ Bob Long · 5 months ago

That is because science is always evolving...

Maverick ➚ lee · 5 months ago

Theories*

Reply · Share ›

AT ➚ lee · a year ago

some are, some aren't... facts are just as bullshit as ficts.....

Reply · Share ›

Mayur ➚ Arjan Hut · 2 years ago

So super crazy, in fact i just thought of the same thing, now how natural is that? and the first comment i see is the same comment. I just thought while reading above article that if all humans on earth discovers from heart and mind what universe is and becomes aware, then that will be the end of the universe. Now i am going to explore more of this.

LISTVERSE

Listverse is a Trademark of Listverse Ltd.
Copyright (c) 2007–2015 Listverse Ltd
All Rights Reserved.

Web Design by FHOKE